April 7th, 1862.

President in the Chair.

The following paper was presented by Mr. W. M. Gabb.

DESCRIPTIONS OF TWO NEW SPECIES OF CEPHALOPODES IN THE MUSEUM OF THE CALIFORNIA ACADEMY OF NATURAL SCIENCES.

Octopus punctatus.—Body ovate, rounded at the extremity. Head moderately large, without any well marked neck; compressed above, about one-fifth as long as the body, abruptly truncated in advance of the eyes, so that the constriction below the arms is barely more than half as wide as the greatest diameter of the head. Eyes of medium size; not prominent; color destroyed by alcohol. Abdominal aperture wide, the ends being directly behind the eyes; lip simple and acute. Siphon broad at the base, rapidly narrowing and extending a little beyond the origin of the arms. Arms subquadrate in section, the largest about four times the length of the body; proportionate length beginning with the dorsal side, 2, 1, 4, 3, varying very little in length, and being of about the same thickness. Cupules moderate, about half the diameter of the arms, largest just beyond the termination of the umbrella; short, robust, tapering almost imperceptibly, and slightly constricted just below the top. Umbrella small, not extending between the arms for one-fourth of their length, but continued as a very narrow membrane, for about one-half of their length along the side farthest from the dorsal side. Mouth very small, surrounded by small lips. Surface smooth, flesh-colored, and profusely marked by very minute reddish-brown, or chocolate-colored points. These points are so closely placed on the dorsal surface of the body and arms, as to produce a nearly uniform, dirty-brown appearance; on the inside of the arms, the inner surface of the umbrella, and the whole ventral surface they are sparsely scattered. Length of body and head to origin of the arms, 3·5 inches. Circumference of body, at its broadest part, 4·3 inches. Length of body to the opening in the abdomen, 2·5 inches. Breadth of head, 1·1 inches. Length of the longest arm, from the mouth, 10·8 inches. Length of shortest, 9·25 inches. Circumference of one arm, 2 inches. Diameter of largest cupule, ·3 in. Length of siphon, ·7 in. Diameter at base, ·7 in. Diameter at apex, (flattened) ·3 in.

Locality—common in the neighborhood of San Francisco. Also found on the coast of Lower California, having been brought from Scammon's Lagoon, in abundance, by Capt. C. M. Scammon. The

specimen from which the species is described is comparative small. Dr. W. O. Ayres told me that he had seen them several feet in length, and spoke of one in which the arms were over seven feet long.

It appears to approach most nearly to *O. megalocyathus* Couthouy, (Gould, Mollusca of Wilkes' Expedition, p. 471) but differs in the absence of the lateral membrane, the size of the mouth, the size of the cupules and the general coloration. There may be other differences, but I have not had an opportunity of examining the figures of Couthouy's species.

Onychoteuthis fusiformis.—Body slender, fusiform, prolonged and sharply acuminate posteriorly, truncated sinuously above, having a slight projection in the median dorsal region, and being equally emarginate on the ventral side. Head small, narrower than the body, subquadrate; eyes moderate and prominent, lachrymal sinus large. Sessile arms, not half so long as the body, nearly of the same size; formula of relative size, counting from the dorsal side, 1, 2, 4, 3, the second and last, being almost exactly of the same length, the dorsal the smallest. The dorsal arms are connected at their base by a minute membrane, which does not run up their sides; the second and third arms, and the tentacles have this membrane on one side, running to the extreme tips; the ventral and the adjoining arms are united by a larger membrane, but like the dorsal, the ventral arms are unprovided with it beyond the base, and are not united to each other; the tips are laterally compressed. The cupules on the sessile arms are strongly constricted at their base, and are pedunculated; they are arranged in a double series, without being either in pairs, nor yet alternating. They commence a short distance from the base of the arms, and are continued to the extreme tips, becoming smaller and scattered as they approach the end. Tentacles, nearly two-thirds the length of the body, exclusive of the head, the club forming about one-third of the whole; the club is little if at all widened; tentacle naked to the base of the club, where the "sucker" is placed, consisting of a small, irregularly rounded disc, bearing eight or nine sessile cupules. Beyond, as far as the extreme tip, are large and small, strongly hooked claws, arranged in an irregular line, and each one pierced near the base, and above grooved for half its length on the concave side. Mouth small, surrounded by a thin, simple lip, and outside of that, by a seven-lobed fold of skin, two lobes of which are placed opposite the base of the ventral arms—one opposite the space between the dorsals, and the other four opposite the laterals. Mandibles black. Siphon small, hardly projecting beyond the mantle. Fins dorsal,

triangular, terminal, half as long as the body, outer angle rounded. Internal plate long, very slender, widest in the middle, tapering both ways, median ridge as high as the lateral plate, conical portion at the base, minute, laterally compressed, tip curved.

Color, light yellowish-brown, on the under surface and inside of the arms; back purplish-brown, nearly black on the median line and the posterior portion of the head, caused as in the preceding species, by the peculiar arrangement of dark spots. On the back of the fins these spots are of two sizes—large ones surrounded by an uncolored space, and small ones of a lighter color, interspersed.

Length of horny plate, 3·2 inches; width, ·15 inches; length of terminal cone, ·15 inches; circumference of body, 2 inches; length of fin, 1·6 inches; breadth of fins, 2·1 inches; length of longest sessile arm, 1·5 inches; length of shortest, ·9 inches; length of tentacle, 2·1 inches.

Said to have been caught off Cape Horn.

April 21*st*, 1862.

President in the Chair.

Dr. H. Behr read the following paper:

Our Californian Argynnides.—The genus *Argynnis* is one of the most natural ones in its group, and it is so well defined in its characters that the boundaries between it and neighboring genera are nearly the same with all authors.

But that very facility we find in circumscribing the genus, is a great disadvantage, when we come to draw the lines between the different species. The easy definition of the genus has its cause in an unusually great uniformity of character. Even the well examined and since long time known species of Central Europe are in some instances doubtful.

In studying our Californian species the perplexity is the greater, as the scarcity of the material in collections has produced a series of diagnosis that occasionally refer to varities instead of the regular form. For the purpose of avoiding to render greater the confusion that does exist, we will give only numbers with the diagnosis of species that we were not able to ascertain from the descriptions that were within our reach.

1. *Argynnis calippe Bd.*

I find nothing to add to the masterly diagnosis and description of this species. It is the only *Argynnis* that is found near our city